REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of the Claims

Claims 1-9, 13-25, and 28-35 are pending in the present application. Claims 1, 14, 15, 20, 21, 23, 24, 34, and 35 are independent. The remaining claims depend, directly or indirectly, from claims 1, 15, 21, and 24.

Claim Amendments

Claims 1, 14, 15, 20, 21, 23, 24, 34, and 35 have been amended by way of this reply. Specifically, claims 1, 14, 15, 20, 24, and 34 have been amended to clarify that the dial-up client dials the remote access switch and the dial-up client is an executable that loads and executes the custom script dynamically linked library. Additionally, claims 1, 14, 21, 23, 24, and 35 have been amended to include the limitation that an instruction to the server is sent from the server side cryptographic function via the PKI-Bridge, and the instruction specifies whether the server should send an allow connection message to the remote access switch based on the result of verifying the reconstructed signed response string. Support for these amendments may be found in at least paragraphs [0042], [0047], and [0054]. No new subject matter has been added by way of these amendments.

Rejections under 35 U.S.C. § 103

Claims 1-9, 13-25, and 28-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,061,796 (hereinafter referred to as "Chen") in view of U.S. Patent No. 6,772,341 (hereinafter referred to as "Shrader") and in further view of U.S. Patent No. 6,377,691 (hereinafter referred to as "Swift"). To the extent this rejection applies to the amended claims, this rejection is respectfully traversed.

The claimed invention, as amended, relates to a client computer and a server. A dial-up client executes on the client computer to dial directly a remote access switch. The dial-up client loads and executes a custom script dynamically linked library. The custom script dynamically linked library is an interface to a client side cryptographic function on the client computer. The client-side cryptographic function provides a response to a challenge generated by the server in order to authenticate the user. The server has a PKI-bridge that is the interface between the server and a server side cryptographic function. After receiving and verifying the response to the generated challenge string the server-side cryptographic function instructs the server to send a message to the remote access switch whether to allow or deny connection to the client computer. The instruction is sent from the server-side cryptographic function through the PKI-bridge to the server. The server then sends the message to the remote access switch.

To establish a *prima facie* case of obviousness "...the prior art reference (or references when combined) must teach or suggest all the claim limitations" (*see,* MPEP § 2143.03). Further, "all words in a claim must be considered in judging the patentability of that claim against the prior art" (*see,* MPEP § 2143.03). The Applicant respectfully asserts that the references, when combined, fail to teach or suggest all the claim limitations of the amended claims. In addition, "during the patent examination, the pending claims must be given their broadest reasonable interpretation consistent with the specification" (*see,* MPEP § 2111, emphasis added).

Applicant respectfully asserts that Chen fails to teach or suggest a dial-up client that dials a remote access switch and is an executable file that loads and executes code in the custom script dynamically linked library. Applicant asserts that the Examiner incorrectly alleges that Chen teaches a dial-up client in the rejection. In order to support the rejection, the Examiner relies solely on a small block labeled "hardware" in the Figure 3 of Chen and the description of the hardware as a network or a modem connection (*see,* Office Action mailed May 18, 2006, p. 3). The amended claim makes it abundantly clear that the dial-up client is an executable file, not hardware. Specifically, in current Specification and the claimed invention, the dial-up client is clearly defined as an executable file (*see, e.g.,* paragraph [0042] of the current specification) as opposed to the hardware as taught by Chen. Accordingly, because hardware can never be equivalent to an

executable file, Chen does not teach or suggest anything even remotely comparable to a dial-up client.

Moreover, Chen does not teach or suggest a remote access switch that performs the functionality specified in the amended claims. Specifically, in the claimed invention of the current application, the dial-up client dials the remote access switch and the server can inform the remote access switch whether to allow or deny a connection. In contrast, in Chen, the only type of connection disclosed is performed through *an open network* (*see, e.g.,* Chen, col. 1 ll. 26-36 and Figure 6). As it is well known in the art, in order to gain connection and authentication to a protected server at the end of an open network, the client must first be authenticated to an access point (*e.g.,* an internet service provider) within the open network. Only *after* being authenticated to the access point of the open network, may the client then *begin* authentication with the protected server. Chen does not disclose a single entity (*e.g.,* the remote access switch of the claimed invention) that is dialed into by a client and can be informed by the server doing the verification of the client using cryptography whether to allow or deny a connection to the client. Thus, Chen does not teach or suggest using a single entity (*i.e.,* remote access switch) as explicitly required by the claimed invention.

Furthermore, Chen does not teach or suggest a PKI-Bridge that is an interface between the *server* and the *server-side cryptographic function.* In order to support the rejection of the limitation, the Examiner incorrectly asserts that the SmartGate VPN taught by Chen is equivalent to the PKI-Bridge recited in the claimed invention (*see* Office Action mailed May 18, 2006, p. 3). However, it is clear from Chen that the SmartGate VPN is an interface between the *server* and the *client,* not the server and the server-side cryptographic function as required by the claimed invention. Specifically, in Chen, the client is sent the authorization to use the Server by the SmartGate VPN. In contrast, in the claimed invention, the server-side cryptographic function sends an instruction to the server *via the PKI-Bridge.* Then, the server sends the message whether to allow or deny connection to the remote access switch based on the instruction. Thus, the PKI-Bridge as recited in the claimed invention *cannot* be considered equivalent to a SmartGate VPN.

As discussed above, Chen fails to disclose all the limitations of amended independent claims. Further, Shrader and Swift do not teach that which Chen lacks. This is evidenced by the fact that Shrader is only relied upon to teach a directory server accessed by a server-side cryptographic function and that Swift is only relied upon to teach challenge string/response string encryption (*see* Office Action mailed May 18, 2006, p. 4). Further, there is no discussion in either Shrader or Swift directed to a dial-up client, a remote access switch, or a PKI-Bridge as recited in the amended claims.
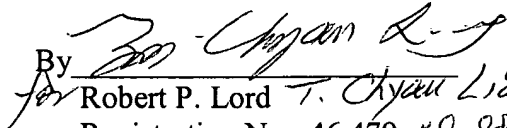
In view of the above, Chen, Shrader, and Swift, whether considered together or separately, fail to support the rejection of amended independent claims 1, 14, 15, 20, 21, 23, 24, 34, and 35. Dependent claims 2-9, 13, 16-19, 22, 25, and 28-33, which depend directly or indirectly from the aforementioned independent claims are allowable for at least the same reasons as the aforementioned independent claims. Withdrawal of this rejection is rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 09469/006001).

Dated: August 18, 2006   Respectfully submitted,

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